=> d l5 1-2 ibib ab

L5 ANSWER 1 OF 2 MEDLINE on STN
ACCESSION NUMBER: 2005066499 IN-PROCESS
DOCUMENT NUMBER: PubMed ID: 15536075
TITLE: A novel peptide isolated from a phage display peptide library with trastuzumab can mimic antigen **epitope** of HER-2.
AUTHOR: Jiang Beihai; Liu Wenbin; Qu Hong; Meng Lin; Song Shumei; Ouyang Tao; Shou Chengchao
CORPORATE SOURCE: Department of Biochemistry and Molecular Biology, Beijing Institute for Cancer Research and Peking University School of Oncology, Beijing 100034, China.
SOURCE: Journal of biological chemistry, (2005 Feb 11) 280 (6) 4656-62. Electronic Publication: 2004-11-09. Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: NONMEDLINE; IN-PROCESS; NONINDEXED; Priority Journals
OTHER SOURCE: PDB-1Y2N
ENTRY DATE: Entered STN: 20050208
Last Updated on STN: 20050301
AB Trastuzumab, a humanized antibody to HER-2, has been shown to be effective in the treatment of breast cancer in which HER-2 overexpression and metastasis occurs. In our search for an effective mimic **epitope** of HER-2 binding with trastuzumab and to develop HER-2 peptide vaccine, we screened a phage display 12-mer peptide library with trastuzumab as the target. A **mimetic peptide** (**mimotope**) H98 (LLGPYELWELSH) that could specifically recognize trastuzumab was isolated. The DNA encoding peptide H98 was cloned and expressed as the fusion protein GST-H98 in Escherichia coli BL21. The purified GST-H98 could specifically bind to trastuzumab and block the binding of trastuzumab to HER-2 protein. Moreover, H98 could significantly block the function of trastuzumab inhibiting the growth of cancer cells. Mice that were immunized with GST-H98 made specific antibody to H98 as well as to HER-2. In addition, T-cell proliferation occurred in mice immunized with GST-H98. Although no sequence homology was found between H98 and HER-2, through the use of structure analysis we were able to determine that peptide H98 contributed to a conformational **epitope** of HER-2. Furthermore, we determined that the last two amino acids at the C terminus, and the third together with the fourth amino acid at the N terminus of peptide H98 are critical to the binding of H98 to trastuzumab. As a result, we conclude that peptide H98 has potential for being developed as a HER-2 vaccine for biotherapy of cancer with HER-2 overexpression.

L5 ANSWER 2 OF 2 MEDLINE on STN
ACCESSION NUMBER: 2003239187 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12761188
TITLE: Molecular structural and functional characterization of tumor suppressive anti-ErbB-2 monoclonal antibody by phage display system.
AUTHOR: Itoh Kunihiko; Inoue Kazuyuki; Tezuka Takehiko; Tada Hitoshi; Hashimoto Yoshiyuki; Masuko Takashi; Suzuki Toshio
CORPORATE SOURCE: Department of Pharmaceutical Science, Akita University Hospital, 1-1-1 Hondo, Akita 010-8543, Japan.. itohk@hos.akita-u.ac.jp
SOURCE: Journal of biochemistry, (2003 Feb) 133 (2) 239-45. Journal code: 0376600. ISSN: 0021-924X.
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AB056117; GENBANK-AB056118
ENTRY MONTH: 200402
ENTRY DATE: Entered STN: 20030523
Last Updated on STN: 20040224
Entered Medline: 20040223
AB To investigate the molecular structural and functional characteristics of

tumor-suppressive anti-ErbB-2 monoclonal antibody (mAb) SER4, we performed mAb-gene cloning and **epitope** mapping by a phage display system. Structural analysis demonstrated that both the heavy chain (HC) and light chain variable regions are highly homologous with the derived germline sequences, while the HC complementarity determining region (HCDR) 3 has a relatively short length and biased amino acid usage. A cloned gene-derived recombinant Fab (rFab) fragment showed antigen binding activity and specificity comparable to the parent mAb. Cross-linking of the rFab fragment with the anti-Fab antibody elicited cell growth inhibition in vitro. These results imply that the cloned genes actually encode the Fab part of SER4. The **epitope mimetic peptide** (**mimotope**) isolated by panning a phage-displayed random peptide library against SER4 showed no cross-reactivity with mAbs other than SER4. The **mimotope** was found to be homologous with (87)AHNQVRQVPLQR(98) in the extracellular domain of ErbB-2 by means of a clustalw search. Since SER4 causes the growth inhibition of ErbB-2 positive cells, the predicted **epitope** sequence may constitute the putative functional domain of ErbB-2.

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FULL ESTIMATED COST	1.96	2.17

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